

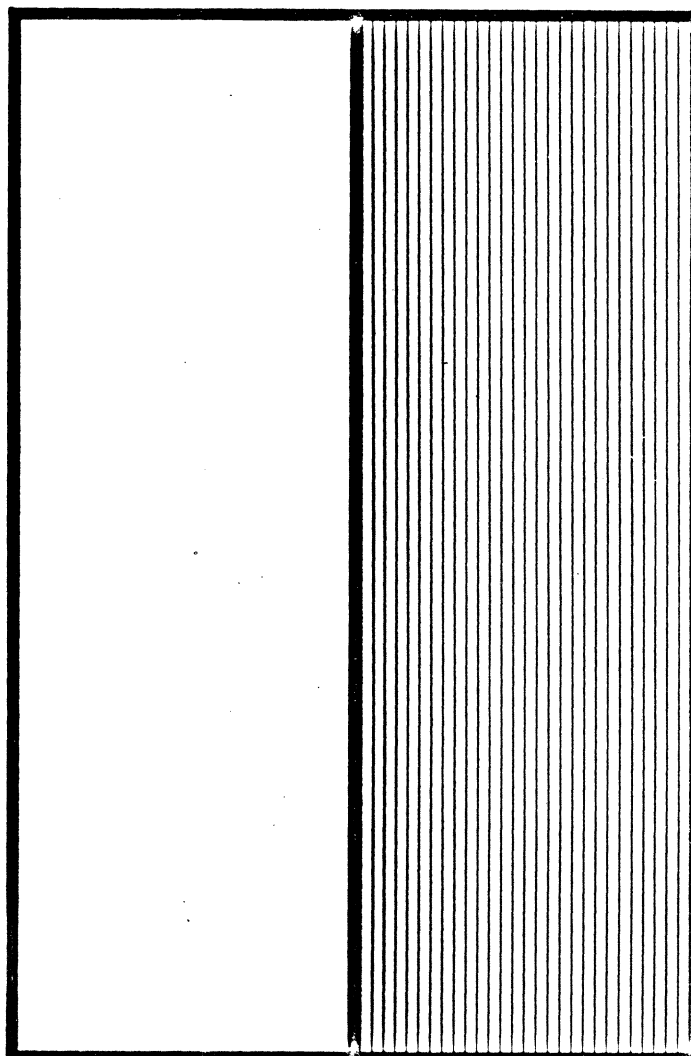
4091710

 SPERRY RAND

UNIVAC

9400 SYSTEM

PROGRAM DESCRIPTION DRAWING



CUSTOMER
ENGINEERING

REVISION STATISTICS RECORD

4091710

DWG REV	MSTR REV	RELEASE DATE	DESIGNER NAME	EIR NUMBER	FCO NUMBER
-	N		PDS Phila., Pa.	C12607	

 SPERRY RAND



DRAWING NO. 4091710

REVISION -

CUSTOMER ENGINEERING
PRODUCT DIAGNOSTIC SOFTWARE

9400 - 5024/8424 or 8425 Disc Invalid Commands Test
D2070

SIGNATURE

TITLE

DATE

APPROVAL

PPROVAL

APPROVAL

APPROVAL

4091710

REVISION DESCRIPTION RECORD

REV	DESCRIPTION
-	Release to 9400 Test Library

TABLE OF CONTENTS

1.0	INTRODUCTION	5
1.1	Purpose	5
1.2	Major Objectives	5
1.3	Equipment Configurations	5
1.4	Associated Software	5
1.5	Reference Documents	5
1.6	Restrictions	5
2.0	FUNCTIONAL DESCRIPTION	6
2.1	General Organization	6
2.2	Subtest Descriptions	6
2.2.1	<u>Subtest 1 - (Group Test)</u>	6
2.2.2	<u>Subtest 2 - (Invalid Sequence Test for Control, Read, Search, and Sense Commands.)</u>	6
2.2.3	<u>Subtest 3 - (Invalid Sequence Test for Write and Erase Commands.)</u>	6
2.2.4	<u>Subtest 4 - (Invalid Sequence Test Including Write Home Address.)</u>	6
2.2.5	<u>Subtest 5 - (Invalid Sequence Test Including Write Track Descriptor)</u>	7
2.2.6	<u>Subtest 6 - (Invalid Command Test)</u>	7
3.0	OPERATING PROCEDURES	8
3.1	Initialization	8
3.2	Test Program Parameters	8
3.3	Test Program Messages	8
4.0	SUPPLEMENTARY DATA	9
4.1	Supplementary Software Information	9
4.2	Supplementary Hardware Information	9

4091710

1. INTRODUCTION

1.1 Purpose. This document describes a 9400 Maintenance test program for the 5024/8424 of 25 Subsystem.

1.2 Major Objectives. The objective of this test program is to perform a test of the 5024/8424 or 25 Subsystem. Test organization and operator options are intended to satisfy the needs of Design, Quality Control and Field Engineering personnel in checkout, acceptance and maintenance activities.

1.3 Equipment Configurations. All equipment configurations must be connected to a Selector I-O channel of the 9400 Processor. This test will operate the following equipment configuration:

- Disc File Control - Type 5024
- Disc Drive - Type 8424 or 25
- Disc Pack Assembly - Type F12 14-01

1.4 Associated Software. This program has DSKH included as an integral part of the program. This is the standard disc handler routine used by all Disc Maintenance test programs. It is the interface between the program and MCR, which performs program load, parameterization, execution, deletion, I-O handling, and message handling.

1.5 Reference Documents

DRAWING

DESCRIPTION

S70040

UNIVAC 9400 Processor, Type 3019-00 and -01.
UNIVAC 9400 Dual I-O Selector Channel, Type
XXXX-00 and -01.

P10076

Disc File Control, Type 5024.
8424 or 25

4091622

Maintenance Control Routine.

4091623

Parameter and Message Routines.

4091670

5024/8414 Disc Program Handler.

2. FUNCTIONAL DESCRIPTION

2.1 General Organization - This program tests all of the invalid command chain sequences and invalid commands of the 5024/8127 subsystem. Invalid chain sequences are issued for various control, read, search, sense, write and erase commands. All possible invalid commands between 00₁₆ and FF₁₆ are issued.

2.2 Subtest Descriptions - Each of the following subtests is described by stating its objective and the method used to attain it.

2.2.1 Subtest 1 - (Group Test)

Objective - This subtest enables the operator to internally select Subtests 2 thru 6 simply by entering Subtest 1.

Method - The proper entry sets bits in the parameter location which indicates to DSKH the appropriate subtests to enter.

2.2.2 Subtest 2 - (Invalid Sequences Test for Control, Read, Search, and Sense Commands.)

Objective - This subtest verifies that invalid sequence indications occur at the termination of various two-command chains.

Method - All of the above commands, including Read IPL, are issued as the first command of a chain. The second command of the chain is a Write, Erase, or Set File Mask which should cause the sequence in the chain to be invalid.

2.2.3 Subtest 3 - (Invalid Sequence Test for Write and Erase Commands.)

Objective - This subtest verifies that invalid sequence indications occur at the termination of various three-command chains.

Method - The first command of the chain is a Search Key Equal Command. The second is a valid Write or Erase Command, and the third command is a Write, Erase, Space Count, or Set File Mask which should cause an invalid sequence indication.

2.2.4 Subtest 4 - (Invalid Sequence Test Including Write Home Address)

Objective - This subtest checks the capability of the disc subsystem to detect an invalid sequence in a three-command chain which contains a Write Home Address Command.

Method - A Set File Mask is the first command of the chain. It is followed by a Write Home Address, and then a Write, Erase, Space Count or Set File Mask which should cause an invalid sequence indication.

2.2.5 Subtest 5 - (Invalid Sequence Test Including Write Track Descriptor)

Objective - This subtest checks the capability of the disc subsystem to detect an invalid sequence in a four-command chain which contains a Write RO Command.

Method - The first command of the chain is a Set File Mask. It is followed by a Search Home Address Equal and a Write RO. Then, a Write, Space Count, or Set File Mask Command is issued. The chain should terminate with invalid sequence indications.

2.2.6 Subtest 6 - (Invalid Command Test)

Objective - This subtest checks the capability of the disc subsystem to reject invalid commands.

Method - All possible commands from 00₁₆ to FF₁₆ function codes are generated. Those which are not valid disc commands are issued and should be rejected.

3. OPERATING PROCEDURES

The Disc Handler Routine (DSKH) functions as a standard interface between the Disc Test Program and the MCR. Standard operating procedures for disc test programs are described in the DSKH document, Drawing Number 4091702.

3.1 Initialization - The procedures used by this program are common to most other Disc MAR's and are described in the DSKH document. The Load Name for this program is

3.2 Test Program Parameters - Standard parameter information applicable to this MAR is described in the DSKH document.

3.3 Test Program Messages - All test entry and exit messages and a standard I/O error message are described in the DSKH document. Data handling by this MAR includes error detection and error message generation. The following messages apply to Subtests 2 thru 6:

<u>MESSAGE</u>	<u>DESCRIPTION</u>	<u>MEANING</u>
Home Address	cc = cylinder	
Not found	hh = head	
CCHn cchh		
INVALID COMMAND	ff = function	1. The invalid command did
ERROR - FCff	code	not return status 02.
DSDA ssdddd	ss = status	
SENSE bbbbbbbb	dddd = device	2. The invalid command did
	address	not return 8000 in sense
	bbbbbbbb = sense bytes	bytes 0 and 1.

4. SUPPLEMENTARY DATA

4.1 Supplementary Software Information - Each subtest of this MAR is entered separately by DSKII and stands alone. It can be extracted from the rest of the MAR and either eliminated or assembled by itself with DSKII.

For further information see Section 4 of the DSKII document, Drawing Number 4091702 and other sources listed in Paragraph 1.5 of this document.

4.2 Supplementary Hardware Information - For additional hardware information consult Section 4 of the DSKII document and the appropriate sources listed in Paragraph 1.5 of this document.